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(54) Title: THE MYCOLACTONE LOCUS : AN ASSEMBLY LINE FOR PRODUCING NOVEL POLYKETIDES, WITH
THERAPEUTIC AND PROPHYLACTIC USES(57) Abstract: The present invention relates to *Mycobacterium ulcerans* virulence plasmid, pMUM001 and particularly to a cluster of genes carried by this plasmid that encode polyketide synthases (PKSs) and polyketide-modifying enzymes necessary and sufficient for mycolactone biosynthesis. More particularly this invention is directed to novel purified or isolated polypeptides, the polynucleotides encoding such polypeptides, processes for production of such polypeptides, antibodies generated against these polypeptides, the use of such polynucleotides and polypeptides in diagnostic methods, kits, vaccines, therapy and for the production of mycolactone derivatives or novel polyketides by combinatorial synthesis.